

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L7	127	(seed adj layer) with (hard adj bias)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 09:26
L8	18	(seed adj layer) with (hard adj bias) with (free adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 08:20
L9	14	((("6353318") or ("6417999") or ("6262869") or ("6434814") or ("6238531") or ("6473277") or ("6447839")).PN.	US-PGPUB; USPAT; USOCR; JPO; DERWENT	OR	OFF	2006/03/03 07:41
L10	143	PINARBASI-MUSTAFA.in.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 07:41
L11	415	(hard adj bias) with (free adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 07:45
L12	56	10 and 11	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 08:19
L13	42	12 and (seed adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 07:42
L14	13	12 and 7	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 07:42
L15	1	(hard adj bias) with (free adj layer) with coplan\$3	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 07:45
L16	91	(seed adj layer) same (hard adj bias) same (free adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 08:20
L17	0	(seed adj layer) same (hard adj bias) same (free adj layer)	EPO; JPO	OR	ON	2006/03/03 08:20
L18	0	(seed adj layer) and (hard adj bias) and (free adj layer)	EPO; JPO	OR	ON	2006/03/03 08:20
L19	4	(hard adj bias) and (free adj layer)	EPO; JPO	OR	ON	2006/03/03 08:25

## EAST Search History

L20	2	("6421212").PN.	US-PGPUB; USPAT; USOCR; JPO; DERWENT	OR	OFF	2006/03/03 08:25
L21	1	(US-20040047087-\$).did.	US-PGPUB	OR	ON	2006/03/03 09:24
L22	1	21 and mill\$3	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 09:24
L23	9	((seed adj layer) with mill\$3) same (hard adj bias)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 09:28
L24	46	(mill\$3 with ((seed adj layer) or (conduct\$3 adj layer))) same bias\$3	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 09:30
L25	1	(mill\$3 near ((seed adj layer) or (conduct\$3 adj layer))) same bias\$3	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/03/03 09:29
S1	4041	29/603.07,603.09,603.13,603.14, 417,846,850,854.ccls.	USPAT; JPO; DERWENT	OR	ON	2006/02/24 09:01
S2	5154	magnetoresistive adj (element or material or sensor)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:15
S3	26298	(connect\$3 or conduct\$3) adj pad	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:08
S4	72	(magnetoresistive adj (element or material or sensor)) and ((connect\$3 or conduct\$3) adj pad)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:14
S5	6	29/603.07,603.09,603.13,603.14, 417,846,850,854.ccls. and ((magnetoresistive adj (element or material or sensor)) and ((connect\$3 or conduct\$3) adj pad))	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:08
S6	79	"5465186".URPN.	USPAT	OR	ON	2004/11/04 15:10
S7	9	("4317149"   "4761699"   "4786993"   "4800454"   "4841395"   "4987514"   "4996623"   "5270645"   "5361547").PN.	USPAT	OR	ON	2004/11/04 15:13

## EAST Search History

S8	11	((magnetoresistive adj (element or material or sensor)) and ((connect\$3 or conduct\$3) adj pad)) and ((web or substrate) same cut\$3)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:16
S9	67	(magnetoresistive adj (element or sensor)) and ((connect\$3 or conduct\$3) adj pad)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:16
S10	54	((magnetoresistive adj (element or sensor)) and ((connect\$3 or conduct\$3) adj pad)) and (web or substrate)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:16
S11	53	((magnetoresistive adj (element or sensor)) and ((connect\$3 or conduct\$3) adj pad)) and (web or substrate)) and connect\$3	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:30
S12	3	("4847584"   "5247278"   "5583424").PN.	USPAT	OR	ON	2005/09/09 10:24
S13	9	"5952825".URPN.	USPAT	OR	ON	2004/11/04 15:25
S14	527	360/324.1,324.11,324.12.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:30
S15	2	((magnetoresistive adj (element or sensor)) and ((connect\$3 or conduct\$3) adj pad)) and 360/324.1,324.11,324.12.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:31
S16	9121	427/127-131.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:31
S17	0	((magnetoresistive adj (element or sensor)) and ((connect\$3 or conduct\$3) adj pad)) and 427/127-131.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:31
S18	0	(magnetoresistive adj element) same (conduct\$3 adj pad) same connect\$3 same (web or substrate)	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:33
S19	2	(magnetoresistive adj element) same (conduct\$3 adj pad) same connect\$3	USPAT; JPO; DERWENT	OR	ON	2004/11/04 15:33
S28	2	("4847584").PN.	USPAT; USOCR; JPO; DERWENT	OR	OFF	2004/11/05 09:36
S29	15	"4847584".URPN.	USPAT	OR	ON	2004/11/05 09:41

## EAST Search History

S30	53	360/316.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/09 09:34
S31	8	360/316.ccls. and (MR adj sensors)	USPAT; JPO; DERWENT	OR	ON	2004/11/09 09:34
S34	1	((US-6344951-\$).did.	USPAT	OR	OFF	2004/11/09 09:51
S35	0	((US-6344951-\$).did.) and (MR adj element)	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:13
S36	0	((US-6344951-\$).did.) and MR	USPAT; JPO; DERWENT	OR	ON	2004/11/09 09:52
S37	1	((US-6344951-\$).did.) and (spin adj valve)	USPAT; JPO; DERWENT	OR	ON	2004/11/09 09:52
S38	0	((US-6344951-\$).did.) and (spin adj valve)) and pad	USPAT; JPO; DERWENT	OR	ON	2004/11/09 09:52
S39	1	((US-6344951-\$).did.) and (spin adj valve)) and conduct\$3	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:05
S41	1680	216/22,48.ccls.	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:12
S42	59	216/22,48.ccls. and (MR adj element)	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:17
S43	30	(216/22,48.ccls. and (MR adj element)) and magnetiz\$5	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:13
S44	12	((216/22,48.ccls. and (MR adj element)) and magnetiz\$5) and cut\$4	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:33
S51	1	(US-6452382-\$).did.	USPAT	OR	OFF	2004/11/09 10:33
S52	0	((US-6452382-\$).did.) and cut\$4	USPAT; JPO; DERWENT	OR	ON	2004/11/09 10:33
S60	7	(US-5247278-\$ or US-5583424-\$ or US-5805390-\$ or US-5952825-\$ or US-6344951-\$ or US-6452382-\$).did. or (JP-10302203-\$).did.	USPAT; JPO	OR	ON	2005/03/23 12:49
S61	3	("6700759").PN.	USPAT; USOCR; JPO; DERWENT	OR	OFF	2005/09/09 15:48

## EAST Search History

S62	16	("5459099"   "5559654"   "5621596"   "5729410"   "5784224"   "5792510"   "5862022"   "5880912"   "5883763"   "5898548"   "6005753"   "6023395"   "6043960"   "6054023"   "6259586"   "6381107").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 10:12
S63	24	(sensor adj layer) with wall	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:27
S64	0	(sensor adj layer) with ((perpendicular or vertical) near wall)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:28
S65	2	(sensor adj layer) near wall	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:27
S66	319	(sensor or (spin adj valve) or magnetoresistive) with ((perpendicular or vertical) near wall)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 15:21
S67	27	(sensor or (spin adj valve) or magnetoresistive) with ((perpendicular or vertical) near wall) same (etch\$3 or remov\$3)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:33
S68	0	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) with (conductive near wall)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:34
S69	0	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) same (conductive near wall)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:34
S70	0	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) same (conductive near (wall or frame or mask\$3))	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:35
S71	4109	(conductive adj (wall or frame or mask\$3))	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:39
S72	5380	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element))	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:46
S73	0	S71 and S72	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:36



## EAST Search History

S74	73	(laminat\$3 or stack\$3 or form\$3 or deposit\$3) with (first adj magnetic adj layer) with (nonmagnetic adj layer) with (second adj magnetic adj layer)	USPAT; JPO; DERWENT	OR	ON	2005/09/11 08:30
S75	0	S71 and S74	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:38
S76	7257	(conductive near (wall or frame or mask\$3))	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:46
S77	0	S74 and S76	USPAT; JPO; DERWENT	OR	ON	2005/09/09 10:39
S79	5	("6018862"   "6204997"   "6483663"   "6510024"   "6661621").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 11:27
S80	2	("6460243").PN.	USPAT; USOCR; JPO; DERWENT	OR	OFF	2005/09/09 11:27
S81	16	("5459099"   "5559654"   "5621596"   "5729410"   "5784224"   "5792510"   "5862022"   "5880912"   "5883763"   "5898548"   "6005753"   "6023395"   "6043960"   "6054023"   "6259586"   "6381107").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 11:30
S82	3	S72 and S76	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:34
S83	7153	narrow with sensor	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:35
S84	161	S72 and S83	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:35
S85	0	S76 and S84	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:35
S86	67	S84 and mask\$3	USPAT; JPO; DERWENT	OR	ON	2005/09/09 11:41

## EAST Search History

S89	14	("4914538"   "5268806"   "5491600"   "5668688"   "5680282"   "5828232"   "5883764"   "5901018"   "6002553"   "6023395"   "6114719"   "6118638"   "6134089"   "6249407").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 11:43
S90	1634	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element))	US-PGPUB	OR	ON	2005/09/11 08:27
S91	1484	(conductive near (wall or frame or mask\$3))	US-PGPUB	OR	ON	2005/09/09 11:47
S92	6	S90 and S91	US-PGPUB	OR	ON	2005/09/09 13:36
S93	197	360/324.2.ccls.	US-PGPUB	OR	ON	2005/09/09 13:38
S94	176	S93 and tunnel	US-PGPUB	OR	ON	2005/09/09 13:36
S95	115	S93 and tunnel and MR	US-PGPUB	OR	ON	2005/09/09 13:37
S96	57	S93 and tunnel and MR and etch\$3	US-PGPUB	OR	ON	2005/09/09 13:37
S98	412	360/324.2.ccls.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/09/09 13:39
S99	64	S98 and (tunnel\$3 same MR same layer\$1) and etch\$3	US-PGPUB; USPAT; EPO; JPO	OR	ON	2005/09/09 13:39
S10 1	14	("4914538"   "5268806"   "5491600"   "5668688"   "5680282"   "5828232"   "5883764"   "5901018"   "6002553"   "6023395"   "6114719"   "6118638"   "6134089"   "6249407").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 14:54
S10 2	13	("4502914"   "4599790"   "4759822"   "4774206"   "4803181"   "4857477"   "4947413"   "4968646"   "5089913"   "5102827"   "5110760"   "5231040"   "5288654").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:00
S10 3	12	("4343082"   "4358340"   "4432132"   "4455738"   "4502914"   "4568565"   "4578157"   "4608271"   "4645563"   "4784718"   "4803181"   "4886763").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:01
S10 4	6	("4042726"   "4313782"   "4331708"   "4334348"   "4354896"   "4454014").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:05

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S10 5	104	("4502914").URPN.	USPAT	OR	ON	2005/09/09 15:07
S10 6	9	("4502914"   "4803181"   "5595941"   "5665203"   "5705321"   "5710066"   "5714039"   "5895740"   "6291137").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:12
S10 7	9	("4502914"   "4803181"   "5595941"   "5665203"   "5705321"   "5710066"   "5714039"   "5895740"   "6291137").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:13
S10 8	8	("4502914"   "4803181"   "5595941"   "5665203"   "5705321"   "5710066"   "5714039"   "5895740").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2005/09/09 15:13
S10 9	2	("6291137").URPN.	USPAT	OR	ON	2005/09/09 15:13
S11 0	35	(sensor or (spin adj valve) or magnetoresistive) with ((perpendicular or vertical) near wall)	EPO; JPO	OR	ON	2005/09/09 15:22
S11 1	947	(sensor or (spin adj valve) or magnetoresistive) with etch\$3	EPO; JPO	OR	ON	2005/09/09 15:22
S11 2	0	(sensor or (spin adj valve) or magnetoresistive) with etch\$3 with liftoff	EPO; JPO	OR	ON	2005/09/09 15:22
S11 3	1	(sensor or (spin adj valve) or magnetoresistive) with etch\$3 with (lift adj off)	EPO; JPO	OR	ON	2005/09/09 15:22
S11 4	31	(bias adj layers) near sensor	USPAT; JPO; DERWENT	OR	ON	2005/09/09 16:01
S11 7	3	("6700759").PN.	USPAT; USOCR; JPO; DERWENT	OR	OFF	2005/09/09 15:48
S12 2	0	(plurality near (bias adj layers)) and (pole adj tip)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 16:02
S12 3	227	((bias adj layers)) and (pole adj tip)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 16:02
S12 4	21	((bias adj layers)) same (pole adj tip)	USPAT; JPO; DERWENT	OR	ON	2005/09/09 16:02



## EAST Search History

S12 5	34	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) same (liftoff or (lift adj off))	US-PGPUB	OR	ON	2005/09/11 08:28
S12 7	276	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) and (liftoff or (lift adj off))	US-PGPUB	OR	ON	2005/09/11 08:35
S12 9	9	(spin adj valve) with (first adj magnetic adj layer) with (nonmagnetic adj layer) with (second adj magnetic adj layer)	USPAT; JPO; DERWENT	OR	ON	2005/09/11 08:30
S13 0	26	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element)) and ((first adj magnetic adj layer) with (nonmagnetic adj layer) with (second adj magnetic adj layer))	US-PGPUB	OR	ON	2005/09/11 08:34
S13 2	1634	((sensor adj layer) or ((spin adj valve) near layer) or (magnetoresistive adj element))	US-PGPUB	OR	ON	2005/09/11 08:35
S13 5	2	("6282069").PN.	USPAT; USOCR; JPO; DERWENT	OR	OFF	2005/09/11 08:37
S13 7	81	204/192.15.ccls. and (sputtering with (conductive adj (layer or material)))	USPAT; JPO; DERWENT	OR	ON	2005/09/11 09:50
S13 8	0	S132 and S137	USPAT; JPO; DERWENT	OR	ON	2005/09/11 09:45
S13 9	6	S137 and sensor	USPAT; JPO; DERWENT	OR	ON	2005/09/11 09:45
S14 0	1	(US-6153062-\$).did.	USPAT	OR	ON	2005/09/11 09:50
S14 1	1	S140 and sputtering	USPAT; JPO; DERWENT	OR	ON	2005/09/11 09:50
S14 2	2	("6556391").PN.	US-PGPUB; USPAT; USOCR; JPO; DERWENT	OR	OFF	2006/02/24 09:02

## EAST Search History

S14 3	12	("20020006020"   "5739987"   "5898548"   "5901018"   "6157526"   "6185080"   "6210810"   "6266218"   "6295186"   "6327107"   "6333842"   "6381107").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/24 09:02
S14 4	21	(US-20030011941-\$).did. or (US-6433970-\$ or US-6862798-\$ or US-6291137-\$ or US-6185081-\$ or US-5996213-\$ or US-6833979-\$ or US-6054023-\$ or US-4502914-\$ or US-6153062-\$ or US-6423475-\$ or US-5459099-\$ or US-6282069-\$ or US-6519118-\$ or US-4803181-\$ or US-6327107-\$ or US-6266218-\$ or US-6185080-\$ or US-5901018-\$ or US-5898548-\$).did. or (JP-11224411-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2006/02/24 09:08
S14 5	0	S144 and (soft near magnetic\$4 near layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/24 09:09
S14 6	2	S144 and (soft near magnetic\$4)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/24 09:09
S15 4	177	(protect\$3 adj layer) with (bias\$3 adj (layer or material))	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:33
S15 5	5072	(etch\$3 or remov\$3) near (protect\$3 adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:31
S15 6	12	S154 and S155	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 09:56
S15 7	17	("5018037"   "5079035"   "5287238"   "5408377"   "5442507"   "5465185"   "5701223"   "5768067"   "5784225"   "5869963"   "5959810"   "6038107"   "6061211"   "6117569"   "6134090"   "6219207"   "6327122").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:01

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S15 8	25	("5018037"   "5079035"   "5287238"   "5408377"   "5442507"   "5465185"   "5701223"   "5705973"   "5751521"   "5768067"   "5784225"   "5869963"   "5949623"   "5959810"   "5995338"   "6038107"   "6061211"   "6117569"   "6134090"   "6175477"   "6185078"   "6219207"   "6243241"   "6262869"   "6327122").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:03
S15 9	10	("5959810"   "5995338"   "6061211"   "6074767"   "6118624"   "6128167"   "6134090"   "6175477"   "6201673"   "6243241").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:22
S16 2	6	("5438470"   "6025979"   "6040962"   "6093444"   "6141190"   "6146775").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:23
S16 3	8	("4271441"   "4639806"   "4663685"   "4803580"   "5005096"   "5018037"   "5168409"   "5351158").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:25
S16 4	7	("4663685"   "5018037"   "5206590"   "5438470"   "5608593"   "5699213"   "5936810").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:25
S16 5	8	("4271441"   "4639806"   "4663685"   "4803580"   "5005096"   "5018037"   "5168409"   "5351158").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:26
S16 6	13	("4024489"   "5018037"   "5438470"   "5641557"   "5646805"   "5701221"   "5739988"   "5739990"   "5748416"   "5754376"   "5805389"   "5847904"   "5876843").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/02/28 10:26
S16 7	15	("5876843").URPN.	USPAT	OR	ON	2006/02/28 10:27

## EAST Search History

S16 8	30	(US-20030011941-\$).did. or (US-5996213-\$ or US-5459099-\$ or US-6054023-\$ or US-5898548-\$ or US-6433970-\$ or US-5901018-\$ or US-4803181-\$ or US-4502914-\$ or US-6862798-\$ or US-6423475-\$ or US-6291137-\$ or US-6185081-\$ or US-6519118-\$ or US-6833979-\$ or US-6153062-\$ or US-6327107-\$ or US-6185080-\$ or US-6282069-\$ or US-6266218-\$ or US-5648298-\$ or US-6791804-\$ or US-6690554-\$ or US-6587315-\$ or US-5959810-\$ or US-6118624-\$ or US-5876843-\$).did. or (US-6663987-\$).did. or (JP-11224411-\$ or JP-63312634-\$).did.	US-PGPUB; USPAT; JPO	OR	ON	2006/02/28 10:29
S16 9	3	S155 and S168	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:29
S17 0	1069	((etch\$3 or remov\$3) near (protect\$3 adj layer)).clm.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:29
S17 1	448	(etch\$3 or remov\$3) near (oxidiz\$5 adj layer)	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:31
S17 2	68	((etch\$3 or remov\$3) near (oxidiz\$5 adj layer)).clm.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:31
S17 3	3	S170 and S172	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:32
S17 4	1134	S170 or S172	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:32
S17 5	177	((protect\$3 or oxidiz\$5) adj layer) with (bias\$3 adj (layer or material))	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:17
S17 6	6	S174 and S175	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:34

## EAST Search History

S17 7	5513	S155 or S171	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:34
S17 8	12	S175 and S177	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 10:34
S17 9	0	jp-1131313-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:13
S18 0	2	jp-10131313-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:11
S18 1	1	jp-01131313-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:12
S18 2	7	"1131313"	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:12
S18 3	0	jp-08450373-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:13
S18 4	0	jp-0845037-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:13
S18 5	2	jp-08045037-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:14
S18 6	0	jp-9282618-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:14
S18 7	2	jp-09282618-\$.did.	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:14
S18 8	6445	(magnetoresist3 near (element or device))	US-PGPUB; USPAT; JPO; DERWENT	OR	ON	2006/02/28 11:15



## EAST Search History

S19 4	8	((("6040962") or ("5438470") or ("6141190") or ("6344953"))).PN.	US-PGPUB; USPAT; USOCR; JPO; DERWENT	OR	OFF	2006/02/28 11:37
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IEEE JNL IEE Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IEEE CNF IEE Conference Proceeding

IEEE STD IEEE Standard

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- ☐ 1. Tunnel-valve and spin-valve structures with in situ in-stack bias  
 Childress, J.R.; Ho, M.; Fontana, R.E.; Rice, P.M.; Carey, M.J.; Gurney, B.A.;   
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